Redrock / Trailer 1 (NV-CCD-00660) Norovirus Situation Lessons Learned

Background:

On July 15, 2009, approximately 1300 hrs the Redrock and Trailer 1 fires started 25 miles north of Reno, Nevada, in heavy grass, moderate sage, and moderate to heavy juniper fuel types. Temperatures were in the 95-103˚F range, causing the fires to spread rapidly with afternoon winds. Typical duration of similar incidents in the area have been three to seven day events, with rapid mobilization and demobilization of large quantities of local resources.

Both fires were initially under two Type 3 command structures, made up of local personnel. It was quickly identified that the fires progression was going to threaten structures within the community areas of Cold Springs, Red Rock, and Rancho Haven, as this was the historical precedent. The capabilities of the Type 3 command structures were going to be exceeded, and a Type 2 IMT was requested.

Great Basin IMT2 Whalen was ordered. A considerable number of the IMT personnel were local and very familiar with the incidents and their progression, the fire history, and local resources. The ICP was located at Cold Springs Middle School, 15 miles North of Reno, Nevada. The IMT took command of the incident at 1800 hours July 16th, 2009.

Facilities for the Medical Unit were established within the school, in a laboratory room. This room was chosen due to its multiple sinks for hand washing, solid surface floors and countertops for cleaning of blood or body fluids, close proximity to the restrooms, a connected adjacent lab that could be used as a quiet resting area for ill or injured personnel, and a separate entrance/exit for ambulance transport. These factors proved essential for treatment, and turn-over of the facility at incident close.

On July 19th, during the evening hours, the medical unit started to see an increase in nausea and diarrhea complaints. It was a small increase (<5), but raised awareness amongst the MEDL and MEDL(T). Many of the patients attributed their discomforts possibly to the food that was served during breakfast that day.

July 20, 2009. The incident was progressing with demobilization of excess resources, and reassignments. There was strong movement to release resources do to predicted lightning and an anticipated increase in local initial attack.

There was a noticeable increase in nausea, vomiting, and diarrhea complaints. Several team members along with crew personnel were having severe complaints. Safety Officer and Food Unit Leader were notified. Food Unit Leader discussed that during routine inspection of the catering unit the day before that some rice used for meals may not have been stored properly. The Food Unit Leader initiated some fact finding for food borne illness through professional contacts. The information gathered, plus a previous event occurring on an incident locally 10 years prior, stimulated a meeting between the command and general staff, including the medical unit for direction on proceeding with the issue.

During this meeting, it was identified that the only way to know whether the issue is food borne, or other, was to take individuals experiencing symptoms to be evaluated and stool specimens collected for analysis. Arrangements were made to transport several personnel with the MEDL to local facility for evaluation. Upon arrival at the treating facility, the MEDL held conference with the attending physician about concerns and timeframes for sample analysis results. Possibilities outside of food borne illness were discussed, and it was relayed that test results could take up to 48 hours to receive.

While the three team members with symptoms were being evaluated, six other incident personnel became ill to the point of five of them being emergently transported for evaluation. The attending physician, once notified of more patients, notified the Washoe County Health Department. This notification was also being performed by the SOF2 (T) at the incident.

Of all, three were federal employees and AD's, four were state or local employees, and two were contractors. All were treated and released. Stool samples were collected and sent to the lab for analysis.

Updates were given by the MEDL at the treating facility to the IC. Local district COMP personnel assisted with procurement and documentation at the treating facilities. Accommodations for filling prescription orders for anti-emetics and anti-diarrheal were made.

July 21st. Nausea/vomiting/diarrhea complaints quadrupled. Personnel complained of vomiting outside of the ICP on the school grounds, in tents while they slept, and in vehicles. Demobilization was rapidly occurring. Information on Noro-type virus symptoms and treatments was distributed at the morning briefing.

ISUITE Injury/Illness module reports were pulled to identify possible source personnel, affected personnel, and home units or reassignments. Command and General staff met again and discussed further issues regarding noro-type virus, as this was the suspect according to Washoe County Health Department EpiTeam.

Lists of personnel and crews affected were given to the IC2(T) to notify home units, staging areas, and other incidents. There was discussion of isolation and cleaning protocols for equipment, facilities, personal belongings, and affected personnel. These protocols are contained in the attached documentation from the Washoe County District Health Department and CDC guidelines for Norovirus.

Washoe County School District already had plans in place for such an event and was going to clean the facility according to the plan.

The IMT transitioned and closed out the incident, passing on information to the type 3 IC. All resources were demobilized, and notifications sent to home units, and districts of reassignment.

The following information was collected by the IMT and Washoe County Health Department:

- 18 firefighters and six contracted staff have reported becoming ill.
- Primary symptoms are nausea, vomiting and diarrhea.

- While some have sought medical care (e.g., through emergency departments), none that we know of have been admitted to any local hospitals.
- Specimens were collected and sent to the State Lab for analysis. Norovirus has been confirmed among several of those who reported being ill. The cause of the outbreak has not yet been determined.
- We don't yet know the source of the outbreak and are continuing to investigate.
- Due to the contagious nature of many illnesses that involve vomiting and/or diarrhea, the Incident Commander indicated that contaminated items (i.e., sleeping bags and tents) would be discarded and owners would be reimbursed.
- In general, outdoor gatherings where food is served have greater potential to lead to food borne illness due to less control over items such as proper food preparation and storage and lack of hand washing. That said, many improvements have been made in firefighting environments to reduce the number of food borne illnesses occurring in those settings.

Lessons Learned from a Medical Unit perspective:

- Choosing appropriate facilities is to handle such incidents is essential. The Medical Unit in fixed facilities should be in close proximity/or have or have: sinks for hand washing, solid surface floors and countertops for cleaning of blood or body fluids, close proximity to the restrooms, adjacent rooms of similar types that could be used as a quiet resting area for ill or injured personnel, and a separate entrance/exit for ambulance transport. Laboratory rooms or similar rooms in schools are ideal. Outdoor incident medical facilities should have hand wash stations and restrooms within close proximity, and ambulance or vehicle access for transports.
- Hand wash stations must be located in numerous locations early in an incident, specifically during transition. Crew that were spiked or coyote camped should be encouraged to clean and bath before continuing in any camp or ICP functions.
- Locate large bottles of hand sanitizer in each functional unit, or area (Check-in, Supply desk, Briefing areas) for use.
- Encourage bathing, hand washing, and good hygiene during operational briefings.
- Maintain strong communication lines with the safety officer, food unit leader, logistics staff, and medical unit staff. All personnel need to be informed.
- Prepare an isolation protocol/plan to be quickly enacted. Pre-established numbers of common complaints can be used as trigger points (i.e. >5 similar complaints/100 personnel/operational period)
- Utilize and become familiar with ISUITE Injury/Illness module. Tracking of complaints by personnel allowed for quick identification of affected crews, home units, and reassignments.
- Early identification, appropriate notification and fact finding. Prepare handouts for units, trap lines, information boards, and IAP inserts.
- Identify common vectors of transmission, and mitigate as necessary. Common vectors: Hand rails to serving windows, table items (salt and pepper shakers, ketchup, etc.) in eating areas, shower facilities, hand wash facilities, ice chests, vehicles, shared computers, door handles, etc.

- Order and provide cleaning supplies for incident vehicles, specifically rental vehicles. Insides should be sanitized before demobilization. Germicidal wipes and latex gloves should be provided for this purpose and placed at vehicle inspection areas.
- BSI stockpiles should be identified. At minimum, latex gloves should be ordered and on hand for personnel operating within the food unit, ground support, medical unit, facilities and supply. Masks, eye protection, and gowns should be available if needed.
- Identify possible quarantine areas. Incident personnel may be utilized for this area. All must be trained on universal precautions. This may require extended assignments or work hours.
- Establish a pharmacy for use. 24 hour pharmacies are ideal. Work with procurement and/or buying team for this.
- Coordinate with the local treatment facility and staff early. Early notification can assist in improving the surge a facility may experience to increased number of patients.
- Communicate early with the health district of jurisdiction. The treatment facility may be able to assist with this.
- Coordinate with the rest of the management team.
- Coordinate with Finance and COMP personnel to complete CA-1 and CA-16 for federal employees. Gather information for state, local, and contracting personnel. Personal items, or incident property may have to be disposed of to eliminate risk of transmission. Approval for incident replacement items may need to be sought.
- Increased illness numbers may have an impact on incident prioritization. Report accurate illness and injury numbers to the Situation Unit for 209 reporting.
- Remember patient care is the priority, and so is confidentiality. Balancing confidentiality and situational awareness to other personnel is difficult.
- Variations in diet, hydration, work periods and exertion, stress factors can create similar symptoms. Do appropriate rule outs for GI illness.
- Prioritize orders appropriately. When ordering items, be specific about quantities, form (Liquid, pills, gel-caps, suppositories, etc.), delivery times and locations. If need be, get the IC to fast-track essential items on the order.
- During extended incidents, using online vendors (in coordination with the buying team) may be the most cost effective and speediest way to receive essential items.
- A lot of affected personnel may not even come to the medical unit for evaluation or treatment. Keep your ears open for complaints in idle discussion. Encourage personnel to check in and advise the medical unit if they feel ill.
- Mass Casualty Incident plans may need to be initiated. Work with the local emergent transport provider for information on this.
- Work with the local emergent transport provider or treatment facility on having the ability to get large quantities of IV supplies, oxygen and oxygen refills, and universal precaution supplies. They may also be utilized for biohazard disposal. Facilities and Finance may have to do EERA's or LUA's.
- Coordinate with the Food Unit Leader to ensure there are adequate supplies of water and Gatorade for hydration. Also, bland food types may need to be requested for those suffering from extreme nausea and vomiting.

- Get in the habit of marking names on water bottles. This will eliminate a transmission vector. Dispose of unmarked open water or beverage bottles.
- Control the rumors, don't let them control you.

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